

## Memorandum

*To: Coastal Georgia Regional Water Planning Council*

*From: Shayne Wood and Rick Brown, CDM Smith*

*Date: March 25, 2016*

*Subject: Coastal Georgia Council Meeting 1 Summary – Regional Water Plan Review and Revision Process*

This memorandum provides the meeting summary of the Coastal Georgia Regional Water Planning Council Meeting 1, held on March 10, 2016 at the Richmond Hill City Center, Richmond Hill, Georgia. The full Council meeting began at 9:30 AM and followed the agenda. A new Council member orientation meeting was held from 8:30-9:00 AM. During the orientation meeting the new Council members were provided with a handout summarizing the following: the 2011 planning process; a list of technical resources and where they can be found on the Coastal Regional Water Plan portion of the State Water Plan website; and a brief overview of the region.

### **1) Welcome and Introductions/Approve Agenda**

Chairman Benjy Thompson called the meeting to order, welcomed the Council Members and guests, and thanked Richmond Hill for hosting the meeting. Chairman Thompson then asked Council Members to introduce themselves and to include a few words regarding their experience with key regional water resource topics. The Coastal Georgia region has been involved in water resource topics for many years and a number of Council Members have participated in several key initiatives including: the Total Maximum Daily Load stakeholder process for the Savannah River, the Floridan Aquifer Permit Limit Reduction Strategy stakeholder process, the 2006 Coastal Georgia Water and Wastewater Permitting Plan for Managing Salt Water Intrusion (CPP), land and water systems development and management, water conservation and reuse initiatives, groundwater well drilling, local government leadership, and storm water control and management.

Chairman Thompson then thanked the public and visitors for coming to the meeting and asked that they introduce themselves (see the end of this meeting summary for a list of attendees).

Chairman Thomson asked if the agenda as presented was acceptable to Council and there was a motion to approve the agenda by Randall Morris, seconded by Phil Odom, and the agenda was approved unanimously.

Chairman Thompson offered a special welcome to Mr. Ron Cross, Chairman, Savannah – Upper Ogeechee (SUO) Council and the members of the SUO and Altamaha Councils that were in attendance. Chairman Cross greeted the Coastal Georgia Council stressing the importance of working together and emphasizing the SUO Councils' efforts to provide high levels of water

treatment to ensure good water quality for their and the Coastal regions. Chairman Cross provided an overview of the large reservoirs on the Savannah River and their operations, highlighting the unique character of the dam and reservoir system. Chairman Cross also stressed the importance of balancing growth with good water resource stewardship. He also noted a recent collaborative success establishing the Clean Water Fund which targets obtaining land conservation easements, promoting sound land management, and science and research along the Savannah River. South Carolina is also contributing to this effort in partnership with Georgia.

Chairman Thompson asked CDM Smith, the Planning Contractor (PC) to proceed with the agenda.

## **2) Regional Water Planning Overview/Schedule**

The PC presented the following information:

- Overview of the planning areas, key contacts, and contractors supporting those areas.
- Key water planning individuals from Georgia Environmental Protection Division (EPD) and the Consulting team.
- Key elements of the planning process and the timeline for completing these elements and the Regional Water Plan revision.
- A summary of the regional vision and goals with a reminder that these should be kept in mind as new information is developed to ensure that the findings of the water plan are consistent with the vision and goals for the region.

Chairman Thompson stated that the previous Council had spent a good amount of time developing the Vision and Goals and while acknowledging that one can always wordsmith these types of documents he felt that they were a good reflection of the values and ambitions of the region. A copy of the Vision and Goals was provided to each Council Member (CM). There was general agreement by Council Members to readopt the Vision and Goals as drafted followed by a motion by James Burnsed, seconded by Phil Odom, and the motion passed unanimously.

The PC turned the remaining portion of this agenda item over to Jennifer Welte, EPD. Ms. Welte highlighted elements of the Memorandum of Agreement (MOA) executed during the development of the 2011 plans (signed by Council, EPD, and Georgia Department of Community Affairs (DCA)); and the Operating Procedures and Rules for Meetings. Ms. Welte noted that there are several new Council Members and encouraged the entire Council to consider renewing their commitment to the plan review and revision process. Ms. Welte noted that she had prepared a simple renewal document supported by EPD and DCA and further indicated that if supported by the Council, they could empower Chairman Thompson to sign the document on behalf of Council. A motion to renew the MOA and have it signed by Chairman Thompson was made by James Burnsed, seconded by Michelle Liotta, and the motion passed unanimously.

### **3) Updated Population Projections**

The PC presented the following information:

- Source of information for updated population projections.
- Georgia's historical population growth over time.
- Updated state population and regional projections that also showed comparisons to the Round 1 population projections.
- The methodology employed to perform the population projection update.
- The current population projections are more in line with historic trends. PC noted that the current predicted growth for the State (as well as the region), while still showing positive growth over time, is not anticipated to increase at the rate that was predicted for Round 1. Round 1 projections were developed prior to the 2010 Census and represented an unusually high rate of population growth when viewed in a historical context. The Round 1 projections were influenced by historical levels of in migration and relatively high birth rates at the time the projections were developed.
- While the State of Georgia's population continues to grow, it is important to recognize where the growth is occurring (i.e., urbanized areas and larger cities). Between 2010 and 2013, census data showed that about half of Georgia's counties have experienced population declines. The majority of counties with declining population are considered rural counties.
- For the Coastal Georgia Region, the updated population projections show an increase in population of approximately 372,404 people from 2010 through 2050.

During the presentation several Council Members noted that they felt the new population numbers look more in line with what one would expect given longer term trends. Several Council Members also raised questions about the population projections, as summarized below.

Question/Comment: A CM noted that there is a large federal law enforcement training center and asked how this is captured in the population projections?

Answer: The PC indicated that individuals that are not permanent residents of the area are typically referred to as transient population. These individuals are not counted in the population projection but their water use is captured in the development of the county level water use. This water use is expressed in gallons per capita per day (gpcd) and we will discuss this topic in more detail shortly.

Question/Comment: A CM stated that he is concerned that the last U.S. Census may not have captured the full population in his area. The CM specifically stated his concern that some of the transient population associated with military bases was not captured by the Census and further indicated that many military service personnel are electing to make Georgia their home following overseas service.

Several Council Members added that they have some concern that other individuals may not get counted in the Census.

Answer: The PC noted that any member of the service that designates Georgia as their “usual place of residence” should be included in the population projections. Seasonal or temporary residents are not included. This likely leads to a situation where some but not all individuals at a military facility are counted in the Census. Nevertheless, for water planning the water use by all individuals that are at a military facility (both resident and temporary) is captured because the county gpcd is derived from total water used at the facility and surrounding public and private water providers. It was further noted that counties with a higher transient population typically have higher gpcd values because these values reflect water use by non-residents.

The PC further stated that transient/non-residential water use is captured by overall public water system withdrawals and this would include non-residential students, tourists, and visitors to the area. A further point was made by the PC related to the ratio of residential to non-residential population. This ratio is typically held constant, unless there are known factors that suggest a change in the ratio over time. A thorough gpcd method with large data sets results in a good regional planning level forecast of water use. The PC reiterated the important differences between state, regional, and local planning. Noting a few examples including the fact that water system design and peak day water use are important at the local level but not accessed at the regional and state level planning. In regional and state planning we are seeking to identify total water use in relation to available water to determine if and where water resource shortfalls (quantity and quality) may exist today or in the future.

#### **4) Municipal Water/Wastewater Forecast Updates**

The PC presented the following information for municipal water forecast updates:

- Calculating per capita water demand.
- Review of the Round 1 methodology used to calculate municipal water demands.
- Review of the per capita adjustment factor (% rate of change from 2010 to 2014) that was applied to the Round 1 gallons per capita per day (gpcd) to arrive at the updated gpcd value.
- Municipal gpcd results for the Coastal region. Overall, a small change across the region between Round 1 and current update (138 gpcd regional average value in Round 1 vs. 136 gpcd regional average updated value). PC stated that population is the more significant parameter in terms of driving estimates of water demands. The PC also noted that EPD is currently taking a closer look at an additional source of information regarding County-level per capita values as part of their due diligence, and will come back to the Council with further information as that analysis progresses. The additional source of information was used when considering the 2010-2014 trends and arriving at the per capita adjustment factors, and a current snapshot of the additional source of information, which is still under review, shows a regional average gpcd value of 132. The PC also

indicated that they wanted to double check the gpcd values presented from the Round 1 planning in relation to the region wide 138 gpcd value.

Question/Comment: A CM asked about industrial water use and how that water use is included.

Answer: The PC indicated that water use for industries that are high water use industries is removed from the gpcd calculation because population is not closely correlated to industrial growth. The best driver we have is the relationship of employment to production/water use. Growth in employment by major high water use industries is then used to obtain growth. The above is the process we used in the first round of planning and you will hear more about this after lunch.

Question/Comment: A CM noted that he recalls this method from the first round of planning but continues to feel that the relationship of employment to water use is changing and does not provide a strong basis for forecasting growth.

Answer: The PC acknowledged that we understand this challenge and that historically we have not been able to get good production to water use data and then find a good driver/estimate for growth in production.

Question/Comment: There was a lively discussion among Council Members that touched on water system design, interconnection, red and yellow zone designations, water conservation and water system audits, concern over how planning information may be used by the regulating community, and local use of "equivalent residential units" (ERUs) 300 gallons per day assuming 3 persons per dwelling or 100 gpcd (note that this 100 gpcd value was utilized for the self-supplied residential value in the Coastal region). Many Council Members offered their unique perspective and there was no specific consensus outcome. Chairman Thompson encouraged Council to focus on whether we have a good approach and suitable water use values for water planning purposes. Chairman Thompson further noted that much of the conversation seemed to be moving toward management practices which will be addressed in the later stages of the planning effort.

The PC reminded Council that we did a pretty exhaustive assessment of water system withdrawals during the last planning effort. We utilized the United States Geological Survey Data (often cited as the Fanning Water Use in Georgia Report) as well as the EPD Drinking Water Survey and EPD Water Withdrawal Permit Data Bases. We conducted further refinement of water use for public water systems that had apparent outlier values when compared to the county and region. This information is all documented in the Water and Wastewater Technical Memorandum which is one of the Supplemental Materials developed to support the regional water plan.

The PC then presented the following information for municipal wastewater forecast updates:

- Review of the Round 1 methodology used to estimate total municipal wastewater generation.

- Review of the methodology used to update the municipal wastewater general forecast, and updated results by region.

Based on the results presented, PC wants to follow-up on why the municipal wastewater forecast for this region seems to be increasing faster compared to the population projections and municipal water demand. This may be due to using the new methodology or could be due to the assumption of transitioning away from septic to centralized wastewater.

There were no additional questions.

### **Lunch**

There were two lunch time presentations which are summarized below.

1) Jeff Larson, EPD providing a detailed presentation of several important water resource efforts effecting the Coastal region. Mr. Larson summarized a brief history of salt water intrusion which lead to the CPP, and recent efforts to reduce groundwater withdrawal permit limits in the red and yellow zones. Mr. Larson also outlined the results of the Total Maximum Daily Load stakeholder process for the Savannah River, as well as comprehensive planning efforts on the Savannah River by the U.S. Army Corps of Engineers.

2) Stan Simpson, U.S. Army Corps of Engineers (USACE) provided an update on the USACE Savannah River Operations. Mr. Simpson highlighted the major USACE reservoirs, storage and operations. Highlighting efforts to balance storage, water supply, flood control, recreation and water quality initiatives.

### **5) Industrial Water/Wastewater Forecast Updates**

The PC presented the following information for industrial water/wastewater forecast updates:

- How industrial water and wastewater demand forecasts were developed in Round 1.
- Review of Round 1 industrial water demands by category and source.
- Review of Round 1 industrial wastewater flow by discharge method.
- Unless there is a significant change to industry in the region, EPD is not proposing to change the industrial forecasts during this Plan update process.

Chairman Thompson noted that there has been a number of economic development initiatives but no specific high water use industries immediately come to mind and he urged Council Members to give this additional thought and get back to Council or the PC with this information.

Question/Comment: A CM again stated the view that it would be good to see if there might be another viable method for forecasting industrial water use other than the use of employment.

Answer: Chairman Thompson noted we can take this topic up during the discussion of subcommittees. The PC emphasized that for this plan review and revision update, we are not planning to update the existing industrial forecast.

Question/Comment: A CM asked if the industrial water forecast is based on permitted or withdrawal values.

Answer: The PC indicated that he thought the values used in the baseline industrial forecast were withdrawal values. A couple Council Members said they thought the values might be permit limit values. The PC indicated that he would double check the information (immediately following the meeting, the PC confirmed the values used were withdrawal values; see page 5-2 of the Water and Wastewater Technical Memorandum for confirmation and more information on the Industrial forecast methodology).

## **6) Energy Forecast Updates**

The PC presented the following information for energy forecast updates:

- Review of thermoelectric power facilities with water withdrawal permits in the State of Georgia.
- Review of the energy sector water demand forecasting methodology from Round 1.
- Updates to energy sector water demands are not yet complete and will be shared with Council once available.
- There are a few major power generating facilities in the region that have associated water withdrawals and this information will be updated.

## **7) Current Agricultural Demand Estimate and Method for Updates**

The PC turned this agenda item over to Cliff Lewis, EPD. Mr. Lewis noted that the information he is presenting was prepared by Mark Masters, Georgia Water Planning and Policy Center (GWPPC). Mr. Masters is leading the team that is updating the agricultural forecast. Mr. Lewis proceeded with his presentation and made the following points:

- The GWPPC is teamed with members of the University of Georgia, Agriculture and Applied Economics. Both entities were involved with the original forecast, but GWPPC is the lead entity for this round of planning.
- Updates will be conducted for irrigated acreage, livestock, and nursery.
- The original forecast utilized three major steps/inputs for obtaining irrigated acres: 1) wetted acreage from GIS, 2) meter data at select locations to refine the wetted acreage data base, and 3) desktop analysis of aerial imagery to identify missing wetted acres.
- Crop water application rates were derived using a crop demand forecast model based on county, crop type, soil type, and climatic conditions.
- The updated method refines the above inputs with: 1) information on animal counts from the U.S. Department of Agriculture, National Agriculture Statistic Services; 2) updated wetted acreage information from detailed mapping at some locations in South Georgia (Flint, Savannah-Upper Ogeechee, and Suwannee-Satilla); and 3) additional meter data.



- Mr. Lewis presented preliminary results which can be viewed from the Council Meeting PowerPoint. Select points made by Mr. Lewis included the following: statewide, the biggest change in animals/livestock was an increase in swine count and Altamaha saw one of the largest increases. Between 2009 and 2014, the Coastal region has experienced a 25.4% decrease in irrigated acres that use surface water, and a 71.8% increase in irrigated acres that use groundwater. Bulloch County was by far the Coastal County with the most irrigated acres (more than 17,000 acres compared to less than 3,000 acres for the next largest County (Effingham)). [During the meeting a CM noted that the information on acreage for Bulloch County looked to be incorrect; the above information is based on corrected information obtained after the Council meeting].

Question: A CM asked who reads the meter data from agricultural water use.

Answer: Georgia Soil and Water Conservation Commission staff.

Question/Comment: A CM noted that for golf course water use, many locations are incorporating reuse into their irrigation and this may need to be considered when the forecast for this sector is updated.

Mr. Lewis concluded his remarks by summarizing that the updated agricultural forecast provides: 1) a more accurate snapshot of acres, and 2) an increase in the amount of crop water use data.

## **8) Appointment of Subcommittee**

Chairman Thompson initiated discussion of this agenda item by summarizing some of the key points made by Council Members during the day. Chairman Thompson indicated that after listening to Council's discussion, it may make sense to consider forming two subcommittees: 1) Focusing on Data Review, including comments made regarding the industrial forecast; and 2) Focusing on Water Resource Gaps, including delving into potential water shortfalls related to the red and yellow zones. Council generally agreed with these suggestions, noting that they can revisit this topic as the planning process continues. The following Council Members volunteered for the Data Review Subcommittee; Chris Blocker, Phil Odom, Randall Morris, James Thomas, and Pete Peterson. It was generally agreed that Council would wait to obtain more information on Resource Assessments (the main topic of the June joint council meetings) before forming the second subcommittee.

The PC and EPD offered to schedule a follow-up webinar/teleconference to report back on some of the follow-up items asked during the meeting, including sending additional municipal water forecast information at the county level.

## **9) Section 319 (h) Georgia's Nonpoint Source Implementation Grant**

Cliff Lewis, EPD presented this agenda item. Mr. Lewis made the following points during the presentation:

- EPD is making money available via special award to develop or revise 9 element Watershed Management Plans. The funding is targeted towards subgrantees that will



work on behalf of the Regional Water Planning Councils. Funding can be made via sole source for eligible subgrantees, which must be public entities of local governments.

- Several existing 319(h) projects were briefly highlighted.
- Information was presented on the priority watersheds identified in the Coastal region that would be good candidates to consider for this program. Additionally, a list of potential grant recipients was provided.

Question: A CM questioned the delineation of the priority watershed and indicated that the areas shown cannot be single hydrologic watersheds.

Answer: Yes, that is a good point and we will work on refining this information and get additional data on the potential program and prioritization process to the Council.

## **10) Public Comment/Local Official Comment**

Two individuals signed up a provided public comment.

Comment: A representative of the University of Georgia River Basin Center, Ms. Katie Hill, addressed Council and highlighted efforts underway to develop a Coastal Wastewater Management Plan. This work is being done in collaboration with the Coastal Resources Division. The goal of this effort is to develop a menu of options that local entities can tailor to their individual needs.

Comment: A representative of the Georgia Forestry Commission provided a handout and summary of the results of their 2015 Forestry Best Management Practices Implementation Survey.

Comment/Request: The PC provided Council members with a survey being conducted by a University of Georgia graduate student. Council members were encouraged to fill out the survey as it is focused on the statewide planning effort.

## **11) Wrap Up/Council Meeting 2 Preview/Council Meeting 1 Evaluation**

The PC concluded the day's remarks by reminding Council that the next meeting will be a joint meeting and will focus on Resource Assessments and shared resources.

The meeting adjourned at 4:10 PM.

## **12) Meeting Attendance**

### Coastal Georgia Regional Water Council members in attendance:

- Chris Blocker, Michael F. Browning, E. James Burnsed, Robbie Byrd, Kay W. Cantrell, Tom Edenfield, Bill Gross, Jay Kaufman, Michelle L. Liotta, Reginald S. Loper, Randal Morris, Johnny Murphy, Phil Odom, Pete Peterson, John L. Sawyer, Mark V. Smith, Jim Thomas, Benjy Thompson, and Jim Vaughn, Jr

### Georgia EPD Representatives in attendance:

- Jennifer Welte, Cliff Lewis, Jeff Larson, and Denisse Hernandez

Regional Water Council contractors in attendance:

- Shayne Wood, Rick Brown, Patrick Victor (representing CDM Smith)

Public attendees:

- Tom Boland (representing Brunswick/Glynn County)
- Jack Marvin (representing Effingham County)
- Jacob Oblander (representing Savannah River Keeper),
- Brian Mooney (representing Altamaha Regional Water Planning Council)
- Alex Floyd (representing Bryan County)
- Laura Wall (representing City of Savannah)
- Deatre Denion (representing DCA)
- Casey Majewski (representing GEFA)
- Katie Hill (Representing UGA River Basin Center)
- Cathy Black (Georgia Forestry Commission)
- Tom Wiedmeier (representing Savannah-Upper Ogeechee Regional Water Planning Council)
- Joel Fleming (representing Georgia DNR – WRD Fisheries)
- Todd Faircloth (representing Georgia Farm Bureau)
- Ron Cross (representing Savannah-Upper Ogeechee Regional Water Planning Council)
- Braye Boardman (representing Savannah-Upper Ogeechee Regional Water Planning Council)
- Stan Simpson (representing U.S. Army Corps of Engineers – Savannah District)
- Brian Hughs (representing USGS)
- Greg Chevrs (representing USGS)
- Elbony Simpson (representing DCA)